The comments and analysis below are in response to the following request, received July 8 2005, from Councilmember Richard Conlin.

Greetings, Commissioners!

I appreciate the willingness of SPC to review the monorail Contract and I agree that it would be helpful to hear your comments. I am most interested in making sure that the Contractor, and not the city, will assume the responsibility and cost of facilitating *pedestrian and bicycle access to the stations*.

Other issues about which the commission's comments would be insightful include ridership and *station, column and guideway design*. I understand that reviewing the Contract is a formidable task but if there is momentum to do so, I would welcome the input.

Thank you,

Councilmember Richard Conlin
italics added

The so-called "DBOM" (Design-Build-Operate-Maintain) Contract is actually two Contracts, the DBEC (Design-Build-Equip-Contract) and the OMC (Operate and Maintain Contract), intended to be executed simultaneously [DBEC page 2]. We are concerned here only with the DBEC. References to paragraph numbers herein are to the DBEC as furnished to the Commission on compact disc.

In addition the Commission has considered the presentation and comments by Mr. Tom Horkan at the June 27, 2005 meeting of the Monorail Review Panel (MRP) as well as the July 29, 2005 response by Mr. Horkan to the Commission's written inquiry of July 19, 2005. Copies of this correspondence are attached hereto.

The documents which comprise the DBEC are voluminous, including mainly the Contract itself, the Technical Provisions, and the Contractor's proposal, in that order of precedence. The Final Design Documents, to be prepared under the Contract, would take precedence over the Technical Provisions and the Proposal, once they are completed and approved. [§1.3.1.2].

The DBEC has been represented as a "fixed-price" Contract which "transfers risk" to the Contractor. The DBEC is essentially what is known in the construction industry as a "turnkey" contract, in which the Contractor assumes overall responsibility to design, build and deliver the system including coordination of essentially all design, construction, and manufacturing work. But this does *not* amount to assumption of *all* risk by the Contractor.

Article 13 of the Contract was described by Mr. Horkan at the June 27 MRP meeting as "the scariest" part of the Contract. He added that "it means exactly what it says." As shown on Exhibit A attached hereto, Article 13 includes 21 clauses providing for Contractor-initiated changes to the Contract Price, and 18 clauses providing for changes to the Contract Time of Completion. These clauses assign certain risks to the SMP, including many risks that normally adhere to the Owner in a construction contract. These risks include differing site conditions [§§13.3.1.1.4, 13.3.1.2.8] and force majeure [§§13.3.1.1.3, 13.3.1.2.5], significant risks on any heavy construction project. One of the events triggering two of these Change Order clauses [§§13.3.1.1.1, 13.3.1.2.1], i.e. failure to issue Notice to Proceed by August 15 2005, has already occurred.

These risks also include third-party risks, including City-required changes to the design of the stations [§13.3.1.2.16], and guideway [§§13.3.1.2.15, 13.3.1.1.10], as well as certain mitigation measures, spelled out in the Transit Way Agreement, that are excluded from the DBEC scope of work but may be imposed

by the City [§§13.3.1.2.14, 13.3.1.1.9]. In his presentation to the MRP on June 27 2005, Mr. Horkan stated his views that (1) third-party risks are the greatest risk to the project, and (2) the City is the greatest third-party risk.

With regard to the guideway design, the DBEC includes a process for arriving at a conceptual guideway design and approval of that design by the City [§2.1.6]. The Contractor is obligated to "participate on an advisory committee with representatives of the City to work collaboratively on the Guideway Design Concept Approval" [§2.1.6.3]. SMP may participate on this committee, but is not obligated to do so [§2.1.6.3]. The approved conceptual design is to be compared to the design included in the Proposal, and the Contractor is entitled to a change in the Contract Price based on the difference in cost attributable to City-required changes [§13.10.2.1].

With regard to the station designs, the designs approved by the City, through the permitting process, are to be compared to the prototypical designs included in the Proposal, and the Contractor is entitled to a change in the Contract Price based on the difference in cost attributable to City-required changes [§13.10.3.3,]. The prototypical station designs are required to be reasonably adapted to their site conditions and these adaptation would not be a basis for an increase in the Contract Price. The designs of the stations are also expected to be responsive to community input, but the Contractor has only to deliver "reasonable objection" to such input in order changes responsive to such input to be the basis for an increase in the Contract Price [§13.10.3.3].

The foregoing analyses of the Contract with respect to change orders for City-required changes to the guideway and station designs were confirmed by Mr. Tom Horkan in his July 29 2005 response to SPC's July 19 2005 inquiry.

The DBEC delegates to the Contractor all of SMP's obligations under the Transit Way Agreement (TWA) except certain obligations listed, and therefore excluded from the scope of work, in §2.1.10. Excluded are six of the seven the mitigation measures, spelled out in Exhibit C of the Transit Way Agreement, regarding pedestrian access to the stations [§2.1.10.27]. These are:

1. Improvements to facilitate pedestrian access to the Elliott/Mercer Monorail Station from Uptown/Seattle Center Urban Center neighborhood, such as an elevated pedestrian connection to the station fare-paid zone, or other pedestrian improvements approved in a Master Use Permit. [TWA Exhibit C, §4(a)] [Note this is a deferred station.]
2. Improvements to at-grade connections between the 5th & Stewart monorail station and Westlake Center. [TWA Exhibit C, §4(b)]
3. An elevated walkway between the King/Weller monorail station and the existing Weller Street Pedestrian Bridge, if permitted by any required third-party approvals. [TWA Exhibit C, §4(c)]
4. Improvements to major pedestrian routes as identified in Table 1, including reasonable enhancements to existing sidewalks and paths, pedestrian safety facilities (such as crosswalks and retiming of signals), and streetscape elements (such as lighting, landscape and urban design elements) to be proposed by SMP in permit applications and specified by the City in Project Construction Permits. [TWA Exhibit C, §4(e)]
5. SMP shall provide or cause to be provided grade-separated pedestrian access to the west side of the BNSF railroad tracks for any station in the vicinity of Safeco Field and Qwest Stadium and Exhibition Hall. [TWA Exhibit C, §4(f)]
6. Spot improvements to major pedestrian routes as identified in Table 2, including enhancements such as wayfinding and other spot improvements to existing sidewalks and paths, pedestrian safety facilities (such as crosswalks and retiming of signals), and streetscape elements (such as lighting, landscape and urban design elements). [TWA Exhibit C, §5(a)]

Should the City chose to enforce these mitigation measures, or otherwise impose mitigation measures under SEPA authority, the Contractor would be entitled to an increase in the Contract Price based on the cost of the mitigation measures [§§13.3.1.2.14, 13.10.1]].

The Contract provides a $35M Contingency Fund [§§ 13.12.1]to cover risks for which the SMP remains responsible, including not only the city-required changes discussed above but also the other risks enumerated in § 13.3. This is about 2% of the Contract amount. If that fund becomes exhausted SMP may choose to bond another $35M, in other words SMP would assume a bonded debt to the contactor up to that amount [§§13.12.5.1]. If that funding mechanism becomes exhausted, then SMP would have to tap into its $76M unallocated reserve (equal to about 4% of the Contract amount). The $76M unallocated reserve is also the backup source of funds for utility change orders in the event that the $67M utility allowance is exceeded.

The foregoing analysis of the sources of funds to pay for change orders for City-required changes to the guideway and station designs were confirmed by Mr. Tom Horkan in his July 29 2005 response to SPC's July 19 2005 inquiry.

Altogether the reserves for SMP-assumed risks amount to approximately 6% of the Contract Price, or 8% if the bonded indebtedness is included. This amount should be compared with the contingency and reserve funds which have been carried on other similar major public works projects.

The Contract is clear that the conceptual and prototypical drawings included in the Proposal are the baseline against which city-required changes to the design of the guideway and stations are to be measured [§§13.10.2.1, 13.10.3.4]. These drawings were described by Mr. Horkan, at the June 27 2005 MRP meeting, as being about 10% complete. These drawings represent the design which both the Design Commission and Planning Commissions have criticized as lacking the excellence that the citizens of Seattle have been led to expect.

It is generally understood and accepted that in a "turnkey" contract such as the DBEC the Owner intentionally relinquishes control over the design of the project. The DBEC contains numerous clauses reflecting such intent [for example, §2.1.6.3, 2.1.6.6]. Given the financial pressures on the project, there is no reason to expect the quality of the design to meet the citizens' expectations unless the City requires changes to improve the design.

Likewise the Contract is clear that all but one of the mitigation measures spelled out in Exhibit C of the Transit Way agreement, regarding pedestrian access to the stations, are excluded from the Baseline Mitigation and therefore from the scope of work. The Contract is also clear that the conceptual design of the project as set forth in the Contractor's Proposal is the baseline against which city-required changes to these mitigation measures are to be measured [§§13.10.1.2]. Given the financial pressure on the project, there is no reason to expect that these mitigation measures will become part of the project unless required by the City.

In addition to changes in the Contract Price, City-required changes to the design of the guideway, and City-required changes to the Baseline Mitigation, may entitle the Contractor to an extension of the Contract Time of Completion [§§13.3.1.1.10, 13.3.1.1.9].

Should the City choose to require improvements to the design of the guideway and stations, or choose to enforce the mitigation measures regarding pedestrian access spelled out in the Transit Way Agreement, the Contractor will be entitled to an increase in the Contract Price and these costs would have the effect of depleting the Contingency Fund, and possibly the Unallocated Reserve, at the outset of the project. That might place the project in a financially untenable position. To avoid that consequence the City may have no choice but to (1) accept the bare-bones design of the project as it is, and (2) not enforce the mitigation measures in the Transit Way Agreement regarding pedestrian access.

Exhibit A - Green Line DBEC Contract - Risk Allocation

		Owner (SMP) Risks				Contractor Risks			
		Change in Contract Price		Change in Contract Time		Cost		Time	
			contract clause		contract clause		contract clause		contract clause
Contractor Responsibilities									
1	cost of performance except for Change Orders					X	13		
2	time of performance except for Change Orders							X	13
3	design errors and omissions					X	3.1.3	X	3.1.3
Contractor-Initiated Change Orders									
1	differing site conditions	X	13.3.1.2.8	X	13.3.1.1.4				
2	hazardous materials	X	13.3.1.2.8	X	13.3.1.1.4				
3	changes in law	X	13.3.1.2.12	X	13.3.1.1.4				
4	necessary technical provisions changes	X	13.3.1.2.6	X	13.3.1.1.6				
5	new government approvals	X	132.31.2.7	X	13.3.1.1.7				
6	litigation orders	X	13.3.1.2.11	X	13.3.1.1.8				
7	changes in baseline mitigation	X	13.3.1.2.14	X	13.3.1.1.9				
8	uncovering, removing and restoring Work	X	13.3.1.2.9						
9	relocations	X	13.3.1.2.10						
10	exemption under Rule 171	X	13.3.1.2.13						
11	insurance premium increases	X	13.3.1.2.19						
12	certain design, engineering and estimating costs	X	13.3.1.2.20						
13	city-required changes in design of the guideway	X	13.3.1.2.15	X	13.3.1.1.10				
14	landscaping for guideway areas	X	13.3.1.2.3	X					
15	changes to design of Ballard Crossing	X	13.3.1.2.18	X	13.3.1.1.12				
16	city-required changes to station design	X	13.3.1.2.16	X					
17	failure by SMP to issue NTP by August 15 2005	X	13.3.1.2.1	X	13.3.1.1.1				
18	interference by other SMP contractors			X	13.3.1.1.13				
19	SMP-caused delays	X	13.3.1.2.4	X	13.3.1.1.2				
20	utility delays			X	13.1.1.15				
21	city-caused delays	X	13.3.1.2.17	X	13.3.1.1.11				
22	force majeure events	X	13.3.1.2.5	X	13.3.1.1.3				
23	any other express entitlement	X	13.3.1.2.21	X	13.3.1.1.14				

July 29, 2005

Jerry Finrow, Vice Chair
Seattle Planning Commission
Department of Planning and Development
700 Fifth Avenue, Suite 2000
P.O. Box 34019
Seattle, WA 98124-4019

Dear Mr. Finrow:

Below are responses to the questions you posed in your July 19, 2005 letter. I would point out that the City Council's financial consultant will be conducting a thorough review of these issues as part of their work.

The information provided below is intended solely to assist you with your review and is not a statement or evidence of the intent of the SMP or Cascadia Monorail Company. Nothing herein is intended to interpret or modify the DBEC provisions. For the legal meaning of the DBEC, please refer to the contract language.

1) Monorail Guideway and Pedestrian/Bicycle Access to Stations

City-required changes to the guideway and stations fall into two categories: Those for which the Contractor would not be entitled to further compensation; and those for which the Contractor would be entitled to a Change Order for increased incremental costs. In the latter case, the Contractor would be expected to submit an Request for Change (RFC) Notice under DBEC §13.3.3 to initiate a request for a Change Order under DBEC §13.3.1.2.15 or §13.3.1.2.16, as applicable.

Guideway

Under DBEC §13.10.2, the proposed conceptual design from the Contractor is to be compared with the City-approved conceptual design. Differences that are immaterial or that are required to comply with mitigation requirements set forth in the contract documents, to comply with the Technical Provisions of the contract documents, or to comply with applicable laws, codes and regulations in effect as of June 15, 2005 would not be a basis for any further compensation. In addition, all the Contractor's design efforts in order to obtain the City's approval of the guideway design concept would not be a basis for further compensation.

Construction cost increases for the Guideway directly attributable to other City changes in the Contractor's proposed conceptual design for the guideway would be eligible for additional compensation through a Change Order.

Stations

Under DBEC §13.10.3, the proposed prototypical station designs from the Contractor are to be compared with the City-approved Station designs. Differences that are the result of reasonably expected adaptations of the prototypical design to each location and circumstance would not be a basis for further compensation. Similarly, reasonable changes emerging from the Contractor's community involvement process for developing final design for each station would not be a basis for further compensation. As with the guideway, differences required to comply with the Technical Provisions of the contract documents, or to comply with applicable laws, codes and regulations in effect as of June 15, 2005 would not be a basis for any further compensation. All the Contractor's efforts to process and obtain permits for the stations are included in the fixed price.

Construction cost increases for a station directly attributable to other City changes to the Contractor's proposed prototypical conceptual design would be eligible for additional compensation through a Change Order. In addition, if the City were to approve a given level of design work – e.g. preliminary design – and then subsequently reject a final design that is consistent with the prior level of design, the Contractor could obtain a Change Order for the re-design costs.

Sources of Funds for Guideway and Station Change Orders

Funding for the foregoing Change Orders would be from the sources, and in the order, you identify in the second bullet of your letter. The language you refer to in DBEC §13.12.1 does not preclude the SMP from accessing its sources of funds outside those specifically identified in the DBEC in order to pay for Change Order work. Were the Contingency Fund to be exhausted and the Contractor's Obligation fully utilized and the Contractor still entitled to further compensation for Change Orders regarding the guideway or Stations, the SMP would access the $76 million unallocated reserve.

Sources of Funds for Utility Change Orders

Except as described below, funding for all Change Orders regarding utility relocations would be from the sources, and in the order, you identify in the third bullet of your letter. See DBEC §13.11.1.2 and §13.11.2.2.

There is a minor possibility that the SMP would change an allocation of cost responsibility from a private utility to the Contractor, or would materially change the terms of a utility agreement with a private utility in a way that would increase the Contractor's costs. In these unlikely, narrow situations, the increased cost to the Contractor would not be payable from the $67 million Utility Allowance, the Contingency Fund or the Contractor's Obligation, but instead would be treated as an SMP-Directed Change that the SMP would pay for from the $76 million unallocated reserve. See DBEC §13.11.3.

2) Green Line Project Ridership

The URS report was prepared for SMP's predecessor agency, the ETC prior to 2002. SMP does not have, and did not contract with URS to provide, the data requested. To our knowledge the ETC did not contract for the preparation of this data. More recent and relevant data prepared for SMP by Cambridge Systematics in 2005 is provided below.

The Origin/Destination (O/D) trip distribution data table that related to Table 5.6 is attached. This O/D data is from the City of Seattle Travel Demand Forecast Model, which is based on the PSRC Ridership Demand Forecast model. The O/D data is generated from the model and is consistent with the data in Table 5.6. SMP requested the attached O/D data table as further verification of the model, and it was not used to produce Table 5.6. However, the data used to produce Table 5.6 and the Origin/Destination both came from the same model.

SMP did not request Cambridge to produce an O/D table that would correlate to Table 5.7. Per your request, SMP has asked Cambridge to create such a table and it should be available within the next ten days. Once the table has been completed we will provide it to you.

For ease in your use of the O/D table, Station 1 through 20 on the top and side of the rows/columns represents the Green Line stations. Station 1 is Morgan Junction and Station 20 is Crown Hill. A key to the numbers and stations has been provided in a revised Table 5.6 attached. The far left column indicates the total number of boardings at each station (origin). The numbers in the rows indicate alightings, or where the boardings get off of the Monorail (destination).

The raw data from the model generates fractional boardings and alightings, so you will note partial passengers in the table. As an example for the AM Peak O/D table; line 5 (Lander Station) has 132.8 boards. Of those boards, 7.9 head south to the Delridge Station, 2 boards to Avalon, 6.1 to Alaska, and 1.6 to Morgan

Junction. Heading north from Lander, 1.5 boards get off at Safeco, 18.6 at King/Weller, 18.1 at Yesler, and so forth.

We have attached a table for AM peak, the Mid-day, and the Daily boards. The one-hour peak is calculated as 38% of the AM peak, which is consistent with the PSRC model. Finally, the boards do not include trips from visitors, special events, or on weekends.

If you have any questions or need further clarification, please feel free to contact me.

Sincerely,

Tom Horkan
Acting Executive Director

Cc: Kristina Hill, SMP Interim Board Chair
David Spiker, Chair, Seattle Design Commission
Council Member Jan Drago
Councilmember Richard Conlin
Councilmember Nick Licata
Guillermo Romano, Director, Seattle Design Commission
Sung Yang, Mayor's Office
Layne Cubell, Staff, Seattle Design Commission
John Rahaim, DPD
Nic Roussow, Chair, Monorail Review Panel
Susan Sanchez, SDOT
Ethan Melone, SDOT

Attachments

City of Seattle

Gregory J. Nickels, Mayor

Seattle Planning Commission

Barbara Wilson, Executive Director

July 19, 2005

Mr. Tom Horkan, Acting Executive Director
Seattle Monorail Project
1904 3rd Avenue, Suite 105
Seattle, WA 98101-1126

Re: Request for Information DBEC Contract

Dear Mr. Horkan:

Councilman Richard Conlin has requested that the Planning Commission review the proposed DBEC contract with respect to certain issues including the 1) guideway and pedestrian/bicycle access to the stations and, 2) the projected ridership. To complete our review, it would be very helpful for the Planning Commission to have additional information from your agency and/ or clarification on a number of items as follows;

1) Monorail Guideway And Pedestrian/Bicycle Access to the Stations

- Please clarify the sources of funds that might be available to pay for city-required changes to the guideway and stations. According to our understanding of the contract, such changes are considered to be contractor-initiated per Article 13.3

- Based on the discussion following your presentation at the MRP on June 27, 2005, it is our understanding that such changes, if required, would be paid for first from the $35M Contingency Fund, then from the $35M bonded indebtedness provided for in 13.12.5.1, and beyond that from the unallocated reserve fund of $76M. If our understanding stated above is correct, please provide clarification on the statement in paragraph 13.12.1 that $35M Contingency Fund and the $35M bonded indebtedness provided for in 13.12.5.1 are "the sole source of payment" for the items listed in 13.12.1 which include city-required changes to the guideway and stations. That language seems to imply that the $76M unallocated reserve cannot be used to pay for any of the change orders covered in 13.12.1.

- Please also confirm our understanding that Utility Change Orders, in the event (however unlikely) that they exceed $67M, will be paid for first from the $35M Contingency Fund, then from the $35M bonded indebtedness provided for in 13.12.5.1, and beyond that from the unallocated reserve fund of $76M.

2) Green Line Projected Ridership

- Please provide more detailed information than is provided in the two ridership forecast reports, the first by URS Corporation in 2002 and by Cambridge/Parametrix in 2005. Specifically, we request the following;

  → Trip distribution data (origin/destination) used to generate Table 2B in the 2002 report by URS: "Year 2020 Monorail Ridership Estimate: Most Promising Route (3-Hour Peak-PM)."

  → Trip distribution data (origin/destination) used to generate Table 5.6 in the 2005 report by Cambridge/Parametrix: "Average Weekday Resident Link Loadings by Station and Direction for 2030 Future Baseline (Scenario #1)."

  → Trip distribution data (origin/destination) used to generate Table 5.7 in the 2005 report by Cambridge/Parametrix: "Average Weekday Resident Link Loadings by Station and Direction for 2030 Green Line and Green Line Extension (Scenario #3)."

We believe this information should be readily available from the two consultants. **Our request is that your agency provide this information to the Planning Commission by July 29, 2005 if not sooner.** The Planning Commission plays a vital role as advisor to City officials on planning policies and plans for the physical development of the City. Please feel free to contact our Executive Director, Barbara Wilson with this information or with any additional questions about our request. Ms. Wilson can be reached at Seattle Planning Commission, Department of Planning and Development, PO Box 34019 Seattle WA 98124-4019; by Telephone: (206) 684-0431; by Fax: (206) 233-7883; or by Email: barbaraE.wilson@seattle.gov

Sincerely,

Jerry Finrow

Jerry Finrow, Vice Chair

CC:
Kristina Hill, SMP Interim Board Chair
Councilmember Richard Conlin
Sung Yang, Mayor's Office
John Rahaim, DPD
Susan Sanchez, SDOT
David Spiker, Chair, Seattle Design Commission
Guillermo Romano, Director, Seattle Design Commission
Layne Cubell, Staff, Seattle Design Commission
Nic Roussow, Chair, Monorail Review Panel
Ethan Melone, SDOT

Table 5.6 2030 Average Weekday Resident Link Loadings for Green Line
DRAFT FINAL Future Baseline Scenario - with LRT and CR modifications

inode	Station	Name	AM Link Loadings Northbound	AM Link Loadings Southbound	MD Link Loadings Northbound	MD Link Loadings Southbound	PM Link Loadings Northbound	PM Link Loadings Southbound	Daily Link Loadings Northbound	Daily Link Loadings Southbound	Max Hourly Loading
12074	1	Morgan Junction	913	28	715	391	23	738	1,832	1,663	347
12081	2	Alaska Junction	1,800	103	1,168	676	83	1,456	3,378	3,053	684
12071	3	Avalon	2,258	123	1,369	946	99	1,826	4,233	3,825	858
12087	4	Delridge	4,156	276	2,175	1,290	223	3,361	7,187	6,445	1579
12091	5	Lander	4,164	404	2,329	1,385	327	3,367	7,500	6,781	1582
12094	6	Safeco Field	4,506	586	3,490	1,848	474	3,644	9,306	8,556	1712
12096	7	King/Weller	4,444	845	3,195	2,206	683	3,594	9,504	8,816	1689
12098	8	Yesler	6,382	1,419	3,103	2,314	1,148	5,161	11,919	10,970	2425
12099	9	Madison	5,530	2,222	3,083	2,717	1,797	4,472	12,027	11,394	2101
12100	10	Pike Place Market	3,556	3,743	2,619	2,952	3,027	2,876	11,097	11,133	1422
12103	11	5th & Stewart	2,076	4,817	2,566	3,181	3,896	1,679	10,629	11,153	1830
12104	12	Bell Street	1,558	5,439	2,474	3,181	4,399	1,260	10,539	11,281	2067
12106	13	Seattle Ctr/5th & Broad	760	5,882	1,917	2,753	4,757	615	9,301	10,281	2235
12109	14	Seattle Ctr/Queen Anne	507	5,358	1,659	2,366	4,333	410	8,102	9,030	2036
12112	15	Elliott/Mercer	286	5,319	1,532	2,257	4,301	231	7,658	8,621	2021
12114	16	Blaine	234	4,574	1,316	1,989	3,699	189	6,611	7,441	1738
12117	17	Dravus	166	3,239	948	1,425	2,619	134	4,708	5,296	1231
12120	18	N.W.Market	72	1,894	576	867	1,532	58	2,773	3,122	720
12059	19	N.W.65th	61	1,182	400	582	956	49	1,813	2,027	449
12058	20	Crown Hill									

Notes
AM is from 6 am to 9 am
MD is from 9 am to 3 pm
PM is from 3 pm to 6 pm
Maximum load is based on 38 percent of the peak period, which is consistent with PSRC assumptions based on observed data
Loadings do not include trips from visitors, special events or weekends

2030 Average Weekday Resident Boardings and Alightings
DRAFT FINAL Future Baseline Scenario - with LRT and CR modifications

Origin Station	Destination Station: Morgan Junction	Alaska Junction	Avalon	Delridge	Lander	Safeco Field	King/ Weller	Yesler	Madison	Pike Place Market	5th & Stewart	Bell Street	Seattle Ctr/5th & Broad	Seattle Ctr/ Queen Anne	Elliott/Mercer	Blaine	Dravus	N.W. Market	N.W. 65th	Crown Hill	Total Daily Boardings	Total Daily Alightings	Total Entering/ Exiting
Morgan Junction	-	28	9	34	32	77	189	195	317	439	276	79	107	30	11	2	2	2	0	1	1,632	1,663	3,495
Alaska Junction	27	-	16	34	50	119	191	195	259	351	192	58	73	20	9	2	3	2	0	1	1,601	1,446	3,047
Avalon	9	17	-	10	25	60	103	108	166	201	116	32	42	11	5	1	1	1	0	0	807	823	1,730
Delridge	33	33	9	-	71	219	344	417	535	724	400	119	139	37	16	3	3	3	1	1	3,107	2,774	5,881
Lander	26	46	22	64	-	7	129	62	51	76	55	21	33	13	4	3	0	6	2	4	652	675	1,327
Safeco Field	68	110	56	202	7	-	719	31	51	74	79	164	612	218	65	36	74	72	30	61	2,730	2,700	5,431
King/Weller	176	180	97	319	131	676	-	10	567	172	644	315	739	195	63	58	108	110	45	80	4,584	4,686	9,270
Yesler	171	173	97	372	88	29	10	-	662	1,958	1,425	512	678	205	72	80	155	138	66	117	7,006	6,307	13,313
Madison	283	229	150	469	49	47	542	540	-	498	1,235	391	247	124	33	105	211	180	94	170	5,598	5,958	11,556
Pike Place Market	396	309	179	633	74	71	176	1,598	524	-	200	78	340	273	76	225	432	385	204	345	6,515	7,346	13,860
5th & Stewart	254	170	104	351	52	75	581	1,173	1,137	192	-	28	641	337	176	233	435	386	198	301	6,825	7,512	14,337
Bell Street	72	51	28	103	21	163	306	445	391	76	34	-	42	99	27	125	229	222	120	201	2,756	3,012	5,768
Seattle Ctr/5th & Broad	100	65	39	124	33	590	712	603	258	342	612	46	-	86	49	149	257	252	113	197	4,627	4,921	9,548
Seattle Ctr/Queen Anne	29	18	10	34	13	215	192	205	139	306	367	114	99	-	3	73	112	129	48	83	2,189	2,137	4,326
Elliott/Mercer	10	8	4	14	4	63	60	67	35	82	189	30	47	3	-	28	41	49	16	30	760	795	1,555
Blaine	2	2	1	3	4	36	62	92	119	264	253	143	164	79	31	-	13	42	7	13	1,330	1,198	2,528
Dravus	2	3	1	3	6	77	115	176	239	502	473	261	285	123	46	13	-	120	18	41	2,505	2,263	4,767
N.W.Market	2	2	1	3	7	76	117	158	205	450	424	254	281	140	55	42	120	-	19	142	2,501	2,261	4,762
N.W.65th	0	1	0	1	3	32	49	77	108	238	221	137	129	54	20	7	19	20	-	24	1,141	1,007	2,148
Crown Hill	1	1	0	1	5	64	88	137	194	400	336	229	222	92	34	14	41	144	23	-	2,027	1,813	3,840
Grand Total	1,663	1,446	823	2,774	675	2,700	4,686	6,307	5,958	7,346	7,512	3,012	4,921	2,137	795	1,198	2,263	2,261	1,007	1,813	61,294	61,294	122,588

Notes

Boardings and Alightings do not include trips from visitors, special events or weekends.

2030 Average Weekday Resident Station to Station Boardings and Alightings for AM Peak
DRAFT FINAL Future Baseline Scenario - with LRT and CR modifications

Sum of TRIPS	d-sta																				
o-sta	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Grand Total
1		11.3	2.6	7.2	22.5	53	71.9	131.8	179.4	227.2	115.8	38	37.5	8.1	5.3	0.4	0.3	0.4			912.7
2	4.4		2.3	12.9	26.9	61.4	69.9	127.2	159.6	225.3	118.8	38.5	39.3	8.8	5.6	0.5	0.6	0.6		0.1	902.7
3	1.1	4.3		4.3	13.4	27.9	35.6	66.4	85.1	119.8	62.5	20.2	20.3	4.5	2.9	0.2	0.2	0.3			469
4	0.7	8.4	1.2		44.2	116.7	155.7	285.3	357.7	494.1	265.7	84.2	84.5	19.1	11.5	0.9	1	1.1	0.1	0.1	1932.2
5	1.6	6.1	2	7.9		1.5	18.6	16.1	17.2	24.5	18.6	5.6	6.9	2.3	0.8	0.3	0.4	0.3		0.1	132.8
6	4	14.5	4.5	25.7	2		241.7	16.9	26.8	28.9	23.7	32.8	159.2	40.3	19.3	2.8	4.3	4	0.5	1.1	653
7	3.6	10.6	3.8	26.2	27.3	16.2			231	20	338.4	111.2	197.6	41.3	20.7	3.9	7.5	6.3	0.8	2.1	1068.5
8	5.3	14.4	4.8	49.1	49.4	4.9			648.2	1914.4	1346.4	421	489.2	90.5	45.3	6.9	14.8	11.9	1.2	3.1	5120.8
9	2.2	4.7	2.3	12.8	7.1	4	96.4	12.8			612.6	106.6	35.7	10	5	3.7	6.9	6.8	1.1	2.4	933.3
10	2.1	6	2.4	16.4	18.2	13.4	43.4	24	193		39.8	24.4	76.2	20.1	11.6	2.6	3.8	3.6	0.4	1.1	442.5
11	1.3	2.8	1.3	8.5	5.5	5.6	12.6	31.8	99.6	1.4			242.4	26.1	69.4	19.4	26.5	21	3.3	6.5	585
12	0.4	1.6	0.5	3.8	7.1	24.7	65.4	71.1	104.2	13.2	28.6		7.6	5.5	4.2	4.3	6	5.8	1	2.2	357.2
13	0.8	2.5	1	6.9	7.6	43.2	56	96.7	94	89.2	91.8	25		3.8	26.1	11.3	14.1	13.6	1.6	3.7	588.9
14	0.3	1.1	0.4	2.7	3.5	27.5	28.5	87.9	88	195.5	180.2	81.6	75.6		0.1	6	7.6	9.9	1	2.3	799.7
15	0.1	0.3	0.1	0.8	0.8	6.5	5.9	18.7	17.3	42.3	36.8	18	14.7	1.5		1.6	2.3	2.6	0.2	0.8	171.3
16	0.1	0.3	0.1	0.6	2.1	11.7	23.1	67.4	81.4	204	127.1	99.5	90.6	36.5	20.5		2.3	7.7	0.5	2.1	777.6
17	0.1	0.5	0.1	0.8	3.8	20.4	43.2	124.8	152.8	372.2	226	175.3	164.8	62.2	28.8	2.2		23.4	1.4	6	1408.8
18	0.1	0.6	0.1	1	4.6	24.1	44.5	118.6	137.5	345.7	222.1	175.1	166.6	69	37.8	10.4	27.9		2.4	22.5	1410.6
19		0.2		0.2	2.3	10.9	23.3	60.9	72.1	178	127.2	93.4	85.3	30.2	14.7	2.6	5.9	7.6		5.1	719.9
20		0.4	0.1	0.5	4.1	20.2	40.8	105.7	126.7	289.9	191.4	146.9	133	49.7	23.1	4.4	9.5	33	2.8		1182.2
Grand Total	28.2	90.6	29.6	188.3	252.4	493.8	1076.5	1466.1	2811.6	4785.6	4173.7	1697.3	2127	529.5	352.7	84.4	141.9	159.9	18.3	61.3	20568.7

2030 Average Weekday Resident Station to Station Boardings and Alightings for Midday
DRAFT FINAL Future Baseline Scenario - with LRT and CR modifications

Sum of TRIPS	d-sta																				
o-sta	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Grand Total
1		8.8	3.6	10.1	5.2	14.8	102.1	49.1	86.4	199.8	130.9	36.1	43.8	15.9	4.3	1	1.3	1.2	0.3	0.4	715
2	7.8		6.5	5.7	13.7	31.9	80.7	41.8	62.1	114	54.8	16.8	21	7.6	2.2	0.7	1	0.8	0.2	0.2	469.5
3	3.7	6.6		2	5	11.8	31	18.3	32.6	59.7	28.3	8.3	9.4	3.3	1	0.2	0.3	0.2		0.1	221.8
4	22.8	12.1	3.4		16	62.7	132.8	73.9	125.3	217.1	109.3	30.3	36.1	12.6	3.5	0.9	1.2	1	0.2	0.3	861.5
5	4.8	8.2	6.9	9.7		2.6	61.8	18.2	21.9	32.8	24.7	8	13.3	5.7	1.5	0.8	1.3	1	0.3	0.4	223.9
6	11	24.5	23.3	38.5	2.6		555.7	8.6	16.9	32.1	42.9	63.3	327.5	108.4	28.9	14.7	27.4	26.2	10.3	21.6	1384.4
7	38.3	58.4	48.9	73.1	47.1	17.6		1.8	240.2	30.4	242.4	76.8	283.2	77.5	23.8	20.9	35.9	37.3	12.8	23.2	1389.6
8	23.3	27	28.7	40	10.8	4.3	10.8		0.8	9.6	24.2	10.2	38.6	16.4	5.3	9	16.4	12.9	6.2	11.4	305.9
9	81	55.4	65.1	80.3	13.1	9.4	78.8	3.2			304.8	104.1	49.2	25	9.8	24.7	51.3	41.5	22.3	43.4	1062.4
10	59.8	34.6	38.3	50.4	11.5	9.8	113.8	20.2	482.4		124.8	21.4	94.2	26.1	10.8	9.3	15	13.9	5.4	10.9	1152.6
11	65.3	33.3	35.9	47.6	14.5	19.7	121.6	40.6	364.2	71.2			211.2	50.5	52.9	75.9	147	109.7	58.1	86.2	1605.5
12	14.6	6.2	5.8	8.4	4.1	74.2	109.6	30.6	143.2	32	6.4		9.4	13.6	5	21.3	39.2	35.1	19.8	36.8	615.3
13	40.6	17.5	16.7	24	11.4	188.7	328.9	97.7	117.8	141.8	189.4	8.6		10.9	6.6	38.4	60.7	58.5	20.4	41.7	1420.3
14	11.2	5	4	6.5	4.2	83.2	83.2	37.2	27.9	90.3	153.8	20.3	14.7		0.6	20.5	28.9	34.1	11.7	20	657.3
15	2.9	1.4	1.1	1.8	1.2	21.5	22.4	9.2	7.2	26.3	41.4	5.4	6.8	0.9		5.3	7.8	8.4	2.5	4.6	178.1
16	0.9	0.6	0.3	0.6	0.7	15.2	22.6	14.2	18.6	62	60.7	27.8	41.1	25.7	6.3		5.2	15.4	2.4	5	325.3
17	1.3	0.9	0.5	0.9	1.4	38.7	45.3	32.2	48	141.6	131.2	60.6	74.1	38.3	11.2	5.6		45.2	7.4	18.8	703.2
18	1.2	0.8	0.4	0.8	1.1	33.8	45.8	24.1	35.1	111.5	118.5	56.8	69.5	43.4	10.8	16	45.7		5.7	64.7	685.7
19	0.3	0.2	0.1	0.2	0.4	14.8	18.4	13	20.4	68.4	54.9	33.6	32.2	16.6	4.2	2.9	7.6	7.2		10.3	305.7
20	0.5	0.3	0.1	0.3	0.7	31.8	32.5	23.7	37.4	124.3	86.3	62.5	64.5	30	7.8	4.6	14.6	50.1	9.9		581.9
Grand Total	391.3	301.8	289.5	400.9	164.8	686.5	1997.8	557.6	1888.4	1564.9	1929.7	650.9	1439.8	528.4	196.5	272.7	507.8	499.7	195.9	400	14884.9

Station		Node	Station
1	Morgan Junction	12074	1
2	Alaska Junction	12081	2
3	Avalon	12071	3
4	Delridge	12087	4
4	Delridge	12087	4
4	Delridge	12087	4
5	Lander	12091	5
6	Safeco Field	12094	6
7	King/Weller	12096	7
8	Yesler	12098	8
9	Madison	12099	9
10	Pike Place Market	12100	10
11	5th & Stewert	12103	11
12	Bell Street	12104	12
13	Seattle Ctr/5th & Broad	12106	13
14	Seattle Ctr/Queen Anne	12109	14
15	Elliott/Mercer	12112	15
16	Blaine	12114	16
17	Dravus	12117	17
18	N.W.Market	12120	18
19	N.W.65th	12059	19
20	Crown Hill	12058	20